

CLAIMS

1. A mobile communication system comprising:
 - a mobile terminal having a location measurement function;
 - a radio access network including a base transceiver station that has a session with the mobile terminal; and
 - a core network connected to the radio access network for performing circuit switching and packet switching;wherein the core network includes a specific communication information server for storing:
 - information on a user who uses the mobile terminal;
 - information on one or more specific communication areas in which specific communication fees are applied to reduce communication fees for the mobile terminal; and
 - information on one or more other communication parties, communication with which is charged at the specific communication fees.
2. The mobile communication system claimed in claim 1, wherein the specific communication area is defined by a contract between the user of the mobile terminal and the mobile communication carrier that manages the mobile communication system.
3. The mobile communication system claimed in claim 1, wherein the specific communication areas are set by contract in the service areas of one or more mobile communication carriers each managing the mobile communication system in Japan and one or more mobile communication carriers each managing the mobile communication system abroad.
4. The mobile communication system claimed in claim 1,

wherein, when the user of the mobile terminal makes a call, while located in the specific communication area, to a mobile terminal located outside the area, communication with which is charged by contract at the specific communication fee, the specific communication fee is applied to the call.

5. The mobile communication system claimed in claim 1, wherein when the mobile terminal is incapable of locating its position, the core network compares the past location measurement data of the mobile terminal obtained therefrom with location data obtained from the base transceiver station, and uses the location data as the location measurement data.

6. The mobile communication system claimed in claim 1, wherein the specific communication information server requests the mobile terminal for the location measurement data thereof while the mobile terminal is in communication.

7. The mobile communication system claimed in claim 1, wherein the mobile terminal displays that it is located in the specific communication area.

8. The mobile communication system claimed in claim 1, wherein the specific communication fee is determined according to the amount of traffic in the specific communication area.

9. A communication fee service method applied to a mobile communication system, wherein:

the user of mobile communication carrier's services defines one or more specific communication areas in the service area of the mobile communication carrier; and

the mobile communication carrier reduces fees charged to the user for communication in the specific communication area.

10. A communication fee service method applied to a mobile communication system, wherein:

a plurality of users of mobile communication carrier's services define their specific communication areas, respectively, in the service area of the mobile communication carrier; and

the mobile communication carrier reduces fees charged to each of the users for communication in the specific communication area.

11. The communication fee service method applied to a mobile communication system claimed in claim 10, wherein the specific communication areas of the respective users overlap partly or completely.

12. A communication fee service method applied to a mobile communication system, wherein, when a first specific communication area is set for a mobile terminal in the service area of a first mobile communication carrier and a second specific communication area is set for another mobile terminal in the service area of a second mobile communication carrier in business partnership with the first mobile communication carrier, the first mobile communication carrier reduces fees for communication between the mobile terminals in the first and second specific communication areas.

13. A communication fee service method applied to a mobile communication system comprising a mobile terminal having a location measurement function, a radio access network including a base transceiver station that has a session with the mobile terminal, and a core network connected to the radio access network for performing circuit switching and

packet switching, the communication fee service method comprising the steps of:

the mobile terminal transmitting confirmation request data to request the core network to check whether or not the mobile terminal is located in its specific communication area;

the core network checking the location measurement data of the mobile terminal contained in the confirmation request data with information on the specific communication area of the mobile terminal defined by contract to determine whether or not the mobile terminal is located in the specific communication area;

the core network informing the mobile terminal, when the mobile terminal is located in the specific communication area, that the mobile terminal is located in the specific communication area; and

the mobile terminal displaying, when having been informed that the mobile terminal is located in the specific communication area, the indication of the specific communication area on the standby screen.

14. A communication fee service method applied to a mobile communication system comprising a mobile terminal having a location measurement function, a radio access network including a base transceiver station that has a session with the mobile terminal, and a core network connected to the radio access network for performing circuit switching and packet switching, the communication fee service method comprising the steps of:

the mobile terminal transmitting location measurement data and a flag indicating that the mobile terminal is located in its specific communication area to the core network;

the core network recognizing, when having received the flag, that the mobile terminal has been located in the specific communication area, and referring to the timestamp of the location measurement data to

determine whether or not the location measurement data has expired;

the core network checking the area based on the location measurement data when the location measurement is still valid, and also checking the other communication party;

the core network checking the area based on the past location measurement data and location data of the mobile terminal obtained from the base transceiver station when the location measurement is already invalid, and also checking the other communication party;

the core network determining whether or not specific communication which is charged at a specific communication fee is to be performed based on the results of the checks for the area and the other communication party;

the core network informing the mobile terminal, when the specific communication is to be performed, that the communication to be performed is the specific one if the other communication party responds to the call, and charging the specific communication fee; and

the mobile terminal determining whether or not the information from the core network indicates the specific communication, and, when the information indicates the specific communication, displaying that the communication to be performed is the specific one.

15. A communication fee service method applied to a mobile communication system comprising a mobile terminal having a location measurement function, a radio access network including a base transceiver station that has a session with the mobile terminal, and a core network connected to the radio access network for performing circuit switching and packet switching, the communication fee service method comprising the steps of:

the core network requesting the mobile terminal for location measurement data;

the mobile terminal transmitting the location measurement data to the core network;

the core network receiving the location measurement data, and checking the area to determine whether or not it corresponds to a specific communication area;

the core network informing the mobile terminal, when the area corresponds to the specific communication area, that the communication is the specific one, and reviewing the charge rate; and

the mobile terminal determining whether or not the communication is the specific one, and, when the specific communication is being performed, displaying the indication of the specific communication.

16. A communication fee service program causing a computer to perform the functions of:

receiving from a mobile terminal confirmation request data requesting to check whether or not the mobile terminal is located in its specific communication area;

checking, on receipt of the confirmation request data, the location measurement data of the mobile terminal contained in the confirmation request data with information on the specific communication area of the mobile terminal defined by contract to determine whether or not the mobile terminal is located in the specific communication area; and

informing the mobile terminal, when the mobile terminal is located in the specific communication area, that the mobile terminal is located in the specific communication area.

17. A communication fee service program causing a computer to perform the functions of:

receiving from a mobile terminal location measurement data and a flag indicating that the mobile terminal is located in its specific

communication area;

recognizing, when having received the flag, that the mobile terminal has been located in the specific communication area, and referring to the timestamp of the location measurement data to determine whether or not the location measurement data has expired;

checking the area based on the location measurement data when the location measurement is still valid, and also checking the other communication party;

checking the area based on the past location measurement data and location data of the mobile terminal obtained from a base transceiver station when the location measurement is already invalid, and also checking the other communication party;

determining whether or not specific communication which is charged at a specific communication fee is to be performed based on the results of the checks for the area and the other communication party; and

informing the mobile terminal, when the specific communication is to be performed, that the communication to be performed is the specific one if the other communication party responds to the call, and charging the specific communication fee.

18. A communication fee service program causing a computer to perform the functions of:

requesting a mobile terminal for location measurement data;

receiving the location measurement data, and checking the area to determine whether or not the mobile terminal is located in a specific communication area; and

informing the mobile terminal, when the mobile terminal is located in the specific communication area, that the communication is the specific one, and reviewing the charge rate.